

TYPHOON JUDY

Typhoon Judy was first evident on satellite imagery as an area of convective activity in the easterlies. Further evidence of the initial disturbance was provided by surface observations from Wake Island during the period of 081200Z to 090000Z September 1978 showing a wind shift, maximum sustained winds of 20 kt (10 m/sec), and a minimum sea level pressure of 1005 mb. For the next three days, the disturbance was monitored by satellite reconnaissance and discussed in the Significant Tropical Weather Advisory (ABEH PGTW). Based on September's climatology for disturbances north of 20N latitude, potential for development was considered to be poor. At times during this period, this potential was supported by satellite imagery showing weak vertical development associated with the disturbance (Fig. 3-18). However, on the 12th, satellite imagery showed increased organization. A Tropical Cyclone Formation Alert was issued as 120440Z and aircraft reconnaissance was scheduled. The first aircraft penetration was 16 hours later and aircraft data along with satellite imagery (Fig. 3-19) supported a cyclone of tropical storm intensity. Consequently, the first warning was issued at 130000Z. Even though Judy was detected very early in her developmental stages, the issuance of an earlier warning was delayed primarily due to a lack of significant skill over climatology in forecasting rapid tropical cyclone development.

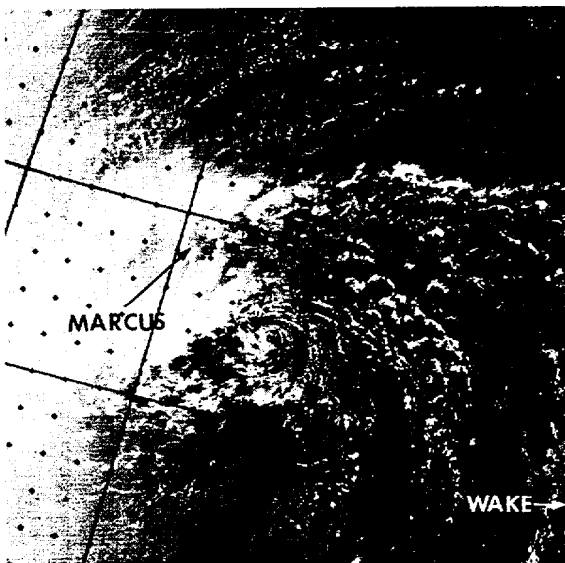


FIGURE 3-18. Tropical Disturbance which developed into Typhoon Judy. At this time the disturbance lacked vertical development, 10 September 1978, 2049Z. [DMSP imagery]

From the time of the first warning until the last, Judy's track was one of classical recurvature, slowing in forward movement to 5 kt (9 km/hr) at the recurvature point and accelerating to 31 kt (57 km/hr) under strong westerly upper-level steering north

of the subtropical ridge axis. Although part of a two-storm situation with Typhoon Irma (Fig. 3-20), Judy never appeared to be influenced by Irma's presence. Warnings on Judy showed excellent continuity. From the second warning on, a recurvature path was forecast. This was due in part to the early detection which provided considerable history in Judy's past track before the first warning was issued. As a result, the forecast errors for Typhoon Judy were considerably better than average for cyclones undergoing recurvature. The intensity forecasts for Judy, however, always lagged her true intensification rate. The maximum intensity of 90 kt (46 m/sec) which Judy attained after recurvature was not foreseen, nor was the rate at which Judy weakened.

At the time of the last warning issued on Typhoon Judy at 170600Z, satellite imagery showed that Judy was merging with an extratropical system to the north. The added influx of energy into this system caused it to deepen rapidly in 12 hours from an estimated 1000 mb to 988 mb with observed 50 kt (26 m/sec) surface winds. During her life, no reported damage was done by Typhoon Judy.

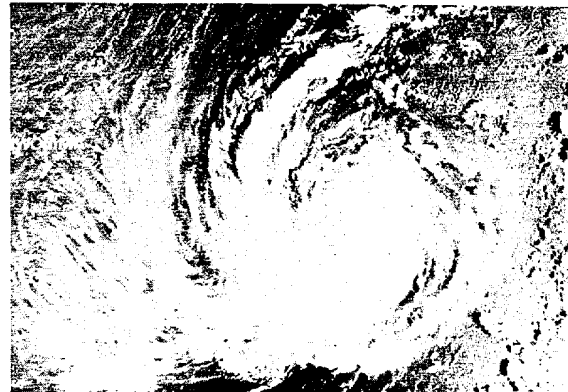


FIGURE 3-19. Judy was at tropical storm intensity at this time, 12 September 1978, 2156Z. [DMSP imagery]

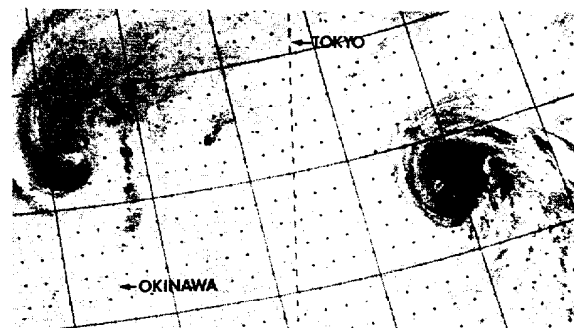


FIGURE 3-20. Infrared imagery of Typhoons Judy (right) and Irma (left), 14 September 1978, 1438Z. [DMSP imagery]